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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,457	01/09/2001	George E. Zahr	QP5031 US NA	8127
23906	7590	12/08/2003	EXAMINER	
E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			WOODWARD, ANA LUCRECIA	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/757,457	Zahr, George E.	
	Examiner	Art Unit	
	Ana L. Woodward	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/24/03, 9/15/03
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 17, 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 13, 15, 16, 19, 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's arguments filed September 15, 2003 are acknowledged. The traversal is on the ground(s) that the present recitation of polyamide-repeating units **and** functional amine units is simply a narrower recitation of polyamide repeating units as originally elected. This is not found persuasive because in response to the election of species requirements of record, applicant chose to elect *only* the polyamide-repeating units as the preferred species defining (R₁). It is maintained that the present species of polyamide-repeating units **and** functional amine units is patentably distinct from the originally elected species. In the interest of advancing the prosecution of the present application, however, applicants' newly preferred species of (R₁), i.e., polyamide-repeating units **and** functional amine units, will be accepted as the elected species.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 1-11, 17 and 18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group or species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6 and 9.

Claim Rejections - 35 USC § 112

3. Claims 12, 13, 15, 16, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 12, line 3, it is unclear as to whether or not the "(R₁)" notation is referring to both of the antecedently recited "polyamide repeating units" and the "functional amine units" or only to the latter units.

In claim 12, line 3, it is unclear if or how the term “functional”, which is indefinite as to scope and meaning, limits the recited amine units.

In claim 12, it is unclear if or how the recited “functional amine units” distinguish over the antecedently recited “polyamide repeating units” because the latter units necessarily contain an amine moiety, e.g., diamine or amine, as seen by the formulae of claim 13. As presently recited, the “polyamide-repeating units” embraces and overlaps the “functional amine units”.

In claims 12 and 19, the “polyamide repeating units” read on the “bis-N-acyl bislactam moieties” because the latter has more than one “amide” unit, and, as such, can be properly termed a “polyamide”.

In claim 13, there is no express antecedent basis for “the polyamide-repeating units (**R₁**)” (with emphasis).

In claims 15 and 19, it is unclear if or how the term “functionalized”, which is indefinite as to scope and meaning, limits the chain extender moieties.

In claim 15, there is no express antecedent basis for “the **functionalized** chain extender moieties” (with emphasis).

In claims 15 and 16, the recited members do not contain functional groups, and, as such, their characterization as “functionalized” chain extenders is not consonant with the specification description at page 7, lines 21-31.

In claim 16, the misspelling of “moiety” is noted.

In claim 20, it is unclear if or how the term “functionalized”, which is indefinite as to scope and meaning, limits the diamine and triamine moieties.

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In claim 20, it is unclear if or how the recited "functionalized diamine or functionalized triamine units" distinguish over the "polyamide repeating units" of claim 19 because the latter units necessarily contain an amine moiety, e.g., diamine or amine, as seen by the formulae of claim 13. As presently recited, the "polyamide-repeating units" embraces and overlaps the "functionalized" amine units.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 12, 13, 15, 16, 19 and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese 61-171732 as per reasons of record.

The reference discloses melt-spun filaments comprising polyamides having a high degree of polymerization derived by reacting a bislactam compound with a polyamide such as nylon 6 and nylon 66. The bislactam compound shown by the formula may contain substituent groups. In the examples, the reference specifically teaches filaments derived from various biscalprolactams and nylon 6. It is reasonably believed that since the filaments of the reference

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are produced from essentially the same materials and process as used by Applicants, that the former would inherently contain the same chemical structure defining the presently claimed polymer. The onus is shifted to Applicants to establish that the products of the prior art do not have the same chemical structure as that of the present claims.

The rejection of claims 12, 13 and 20 is made on the premise that the polyamide-repeating units of the reference read on both the "polyamide-repeating units" and the "functional amine units" (e.g., diamine) set forth by applicant's claims. In this regard, it is noted that said "polyamide repeating units" embrace the "functional amine units", as discussed in the 35 U.S.C. 112 rejection above.

Claim Rejections - 35 USC § 103

7. Claims 12, 13, 15, 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/47940 as per reasons of record

The invention relates to a high molecular weight polyamide prepared by melt-mixing a polyamide having a lower molecular weight with a carbonyl bislactam. The examples provide various examples of polyamide compositions, which essentially meet the requirements of the present claims in terms of the components used. In example 4, polyamide 6 and N,N-isophthaloyl biscaprolactam are blended together. It is reasonably believed that the polymer product resulting from the reaction of the polyamide and bislactam compound of the reference would contain the same chemical structure defining the presently claimed polymer.

The reference differs from the presently claimed only in that it does not expressly exemplify a filament article derived from the polyamide product. In this regard, attention is directed to page 12 of the reference which states that the polyamide product can be processed by

melt spinning to obtain fibers. Accordingly, it would have been obvious to one having ordinary skill in the art to have formulated fibers from the polyamide product of the reference with the reasonable expectation of success.

The rejection of claims 12, 13 and 20 is made on the premise that the polyamide-repeating units of the reference read on both the "polyamide-repeating units" and the "functional amine units" (e.g., diamine) set forth by applicant's claims. In this regard, it is noted that said "polyamide repeating units" embrace the "functional amine units", as discussed in the 35 U.S.C. 112 rejection above.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 12, 13, 15, 16, 19 and 20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6-11 of U.S. Patent No. 6,504,004. Although the conflicting claims are not identical, they are not patentably distinct from each other because the filament product claims of the patent are generic to the presently claimed subject matter.

Response to Amendment

10. Applicant's arguments filed March 24, 2003 have been fully considered but they are not persuasive.

Applicant's main point of contention is that neither of the references teaches a functional diamine or functional triamine unit as recited in claim 12. It is maintained that the rejection of claims 12, 13 and 20 is made on the premise that the polyamide-repeating units of the reference read on both the "polyamide-repeating units" and the "functional amine units" (e.g., diamine) set forth by applicant's claims. In this regard, it is noted that said "polyamide repeating units" embrace the "functional amine units", as discussed in the 35 U.S.C. 112 rejection above.

As to the argument that neither reference discloses a functionalized chain extender as recited in claim 19, attention is directed to the N,N-isophthaloyl biscaprolactam exemplified by WO '940 and the bislactam compound shown by the formula of JP '732 which may contain substituent groups.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana L. Woodward whose telephone number is (703) 308-2401. The examiner can normally be reached on Monday-Friday (8:30-5:00).

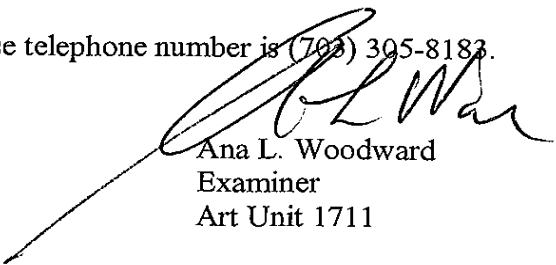
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8183.



Ana L. Woodward
Examiner
Art Unit 1711

AW
December 2, 2003